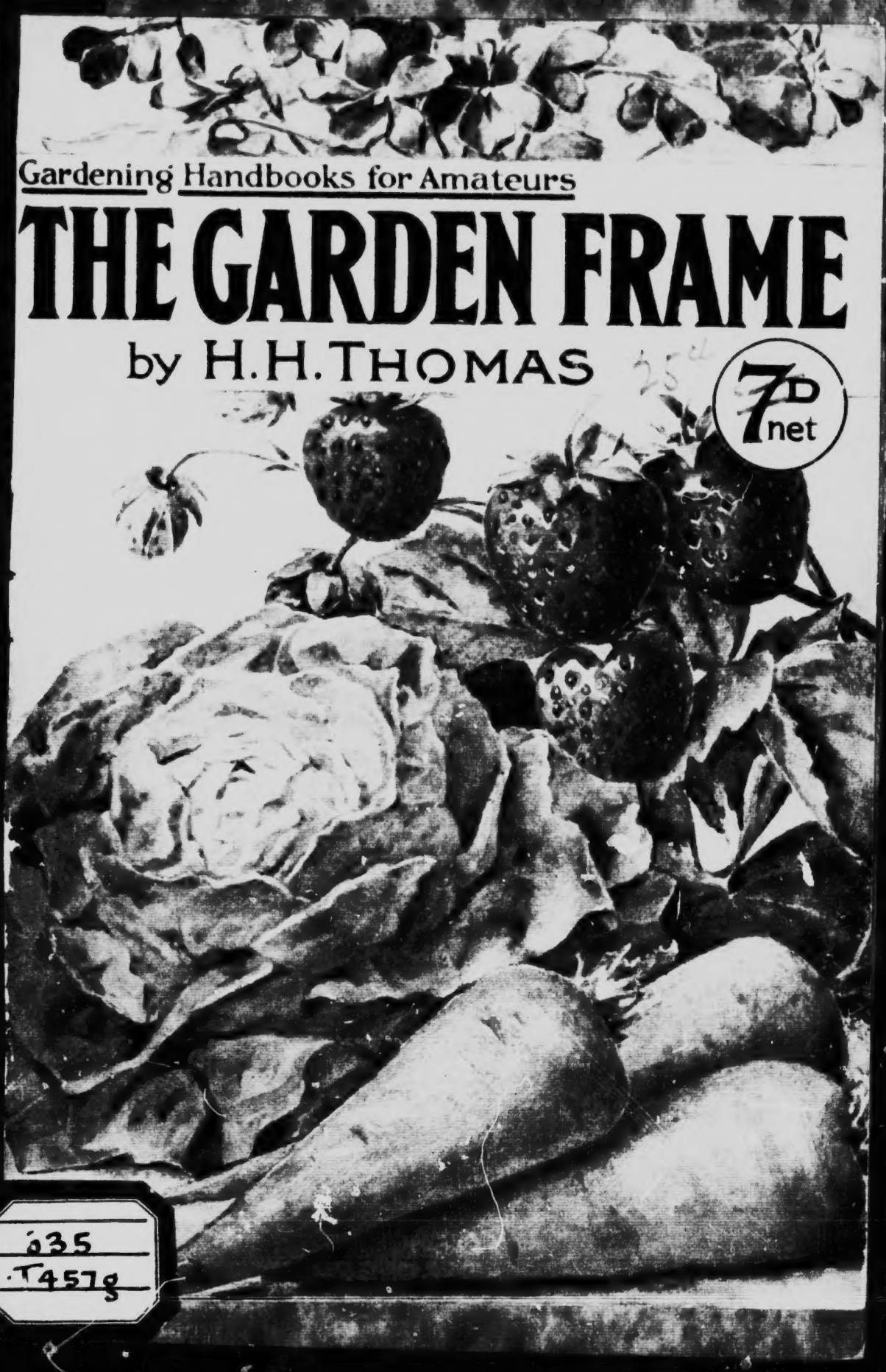




Gardening Handbooks for Amateurs

THE GARDEN FRAME

by H.H. THOMAS

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THE GARDEN FRAME

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**Potatoes and Spring Flowering Bulbs, with many other plants,
can be grown in a Garden Frame**

THE GARDEN FRAME

How to Make the Most of It

BY

H. H. THOMAS

Editor of "The Gardener"

ASSISTED BY

GEORGE GARNER

ustrated by numerous Photographs and
Sketches

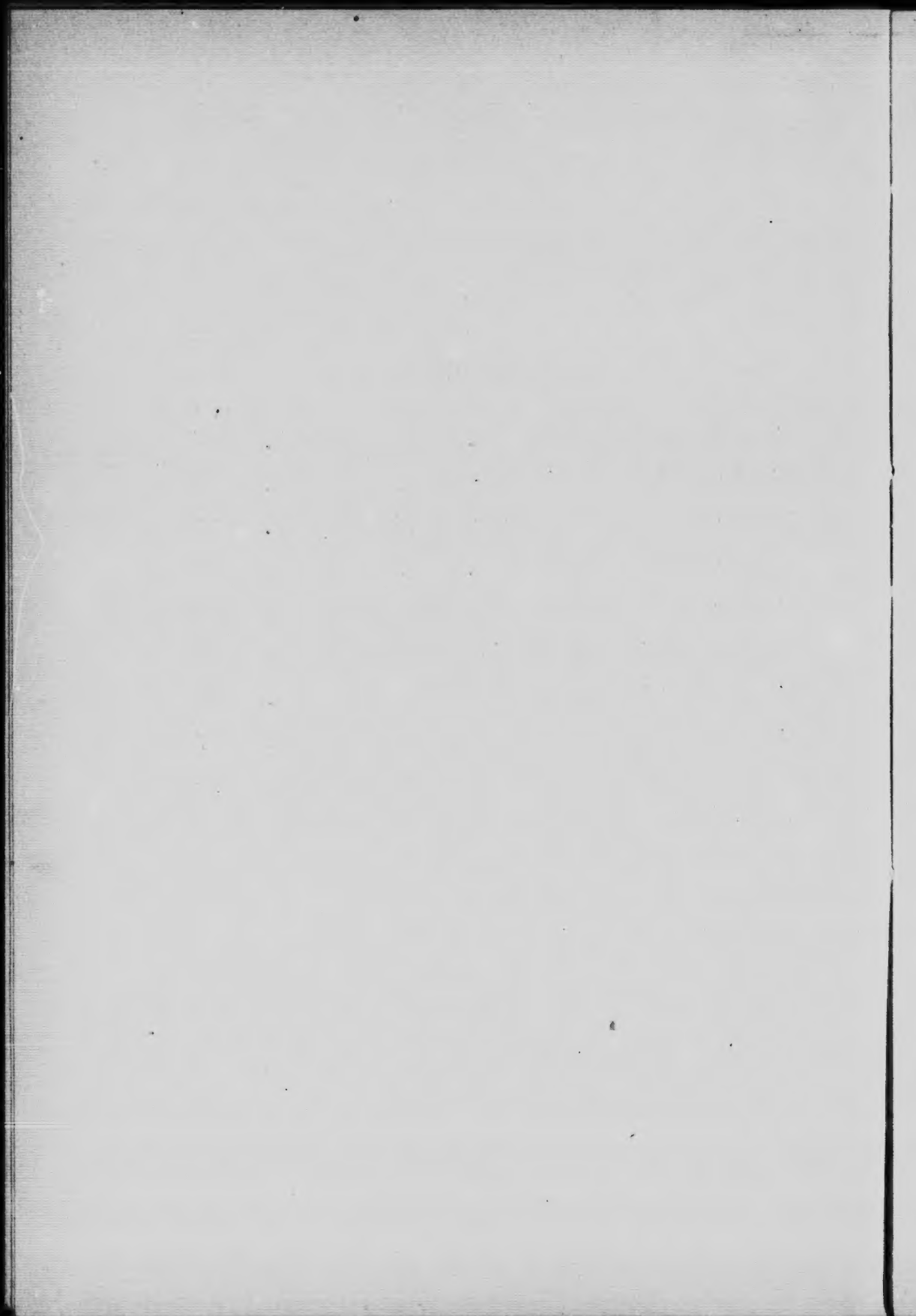
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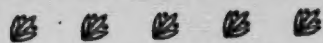
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THE GARDEN FRAME

The Value of a Frame.—Sooner or later, the possessor of a garden feels the need of a frame. It may be said, with truth, that a garden can scarcely be cultivated to perfection without the aid of a frame. This is equally useful for growing flowering plants and vegetables. Even if unheated, the frame is an asset; while, if slightly warmed, its value is increased, because during the winter and spring months it acts not only as a shelter but, with its assistance, flowering plants and vegetable crops can be brought to perfection considerably in advance of those out of doors. A glance through the succeeding pages will show how great a variety of produce can be obtained from a frame during the year; it is not possible, of course, to grow the whole of the plants and crops mentioned unless several frames are available, but these notes will enable the reader to make a selection. If the amateur possesses only a single frame it is best to have one that is movable; during winter it should be placed in as light a position as possible—facing

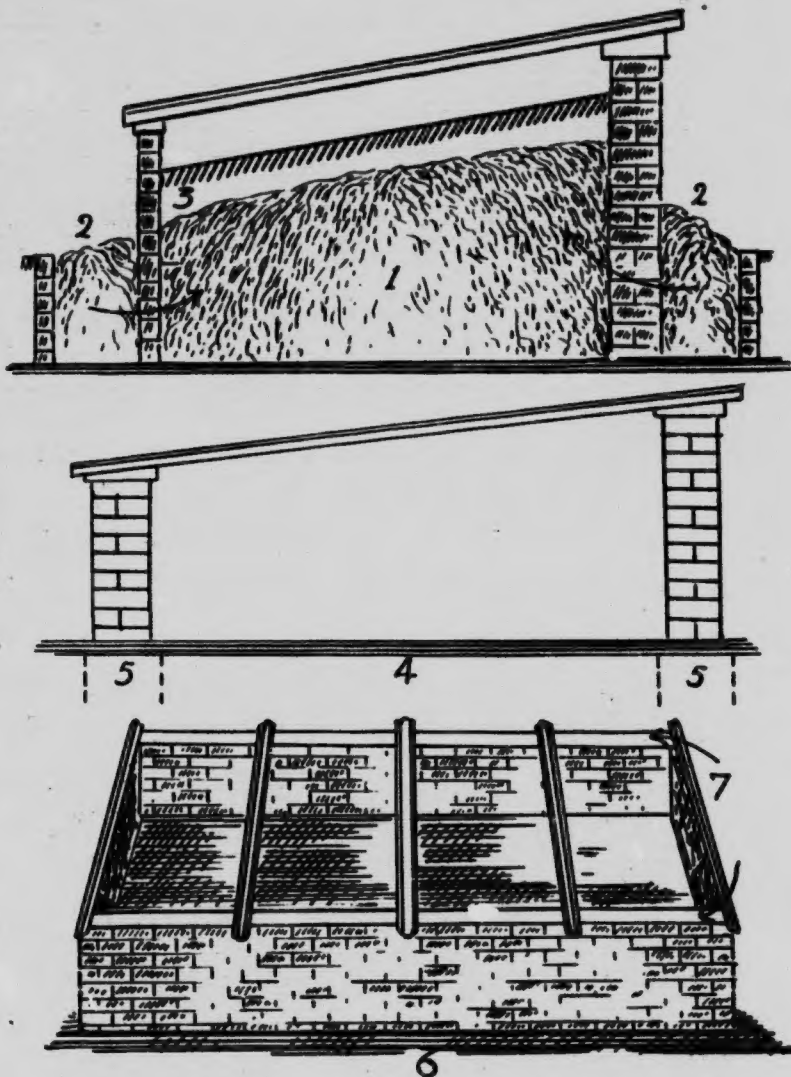
The Garden Frame



due south ; while in summer the plants are usually grateful for a little shade, and the frame may, with advantage, be placed where it is screened from the sun during the hottest part of the day.

The fixed or permanent frame should have a south aspect, with, if possible, a low wall or fence on the north and east sides to protect it from cold winds. The movable frame must be placed in a warm position during the autumn, winter, and spring months if the growth of the plants is to be hastened, and turned round to face the north if the plants are to be retarded. In every case, where possible, the ground on which the frame is placed should be naturally dry—on a raised plot or where water will drain away readily.

Three Kinds of Frames.—Frames may be made of turves, wood, or bricks. The turves should be cut of equal size and fixed similarly to bricks. A suitable size for each turf is 1 foot long, 9 inches wide, and 4 inches thick. When building, mix a small quantity of cut straw, grass, chaff, or moss with a thin layer of puddled clay, the latter being made soft like mortar ; it binds together the turves, makes the wall firm, and excludes air. A good average size for a frame



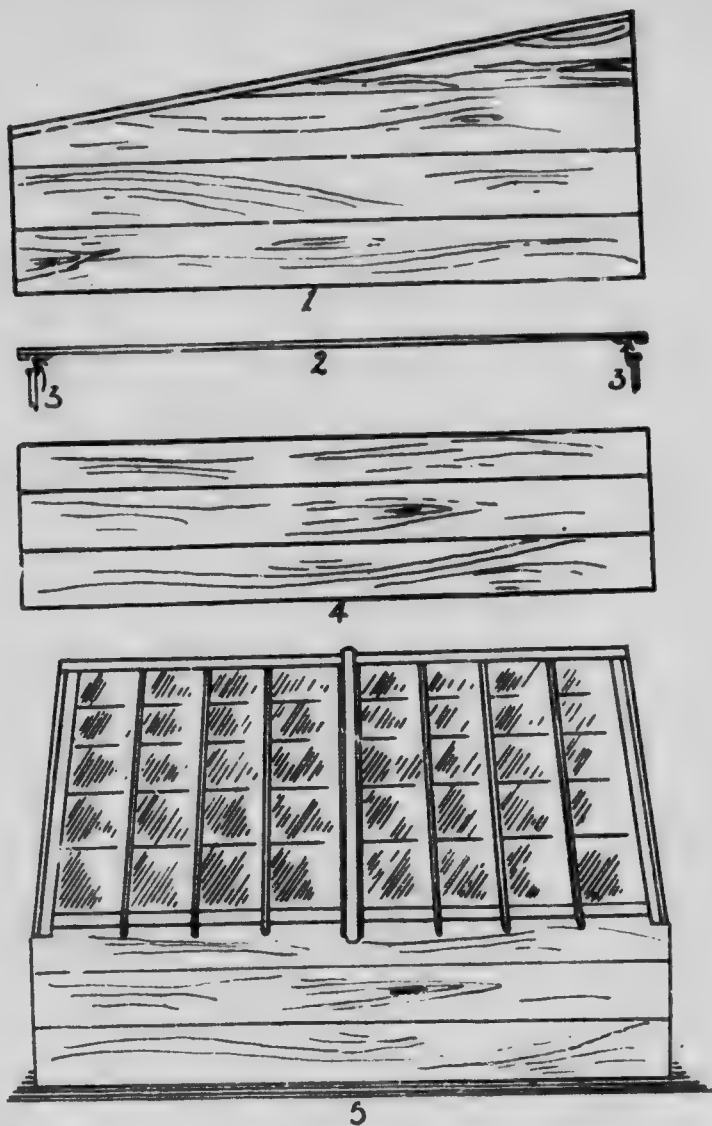
The Brick Frame. No. 1.—Hotbed in Frame. Nos. 2, 2.—Show how heat is maintained from outside. No. 3.—Soil on Hotbed. No. 4.—Shows section of a plain Brick Frame. Nos. 5, 5.—Foundation for walls. No. 6.—Front view of Frame. No. 7.—Wood sills for Glass Lights

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is as follows: 2 feet 6 inches high at the back, 18 inches high at the front; width 6 feet. Wooden frames should be made of good, sound timber, at least $\frac{7}{8}$ inch thick, the knots being painted with knotting; then the whole structure must be primed, and afterwards painted with three coats of the best paint in order to preserve the woodwork. In the case of brick frames, single brick walls, 9 inches thick, set on concrete or on a 14-inch foundation of bricks, are best. The top course of bricks should be laid in cement, then the wall will withstand the pressure of the cultivator when he leans over to attend to his plants. The wooden sills on which the glazed lights are placed should also be laid in cement. All the woodwork, both of the sills and lights, should be screwed together at the corners, in addition to the nailing.

The framework for the glass should be well primed and painted—primed and painted one coat, then the glass is put in, and two more coats of paint are given. With regard to the actual glazing of the lights, use the best linseed-oil putty; put on an even layer of the putty, press the glass, with the aid of a dry cloth, well down on the putty, then put in "sprigs" (brass rivet nails) $\frac{3}{4}$ inch long, four to each square of glass—



The Wooden Frame. No. 1.—Side of Frame. No. 2.—Back of Frame. Nos. 3, 3.—Sides. These fit in grooves as shown. No. 4.—Front of Frame. No. 5.—Shows Frame complete

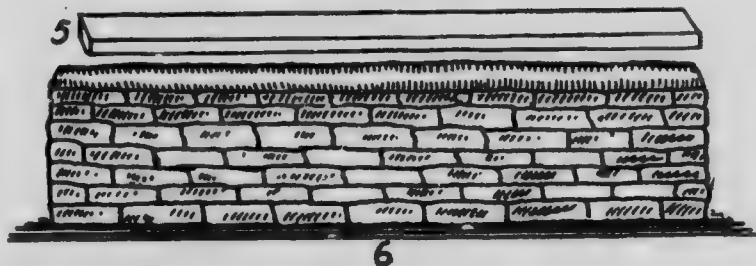
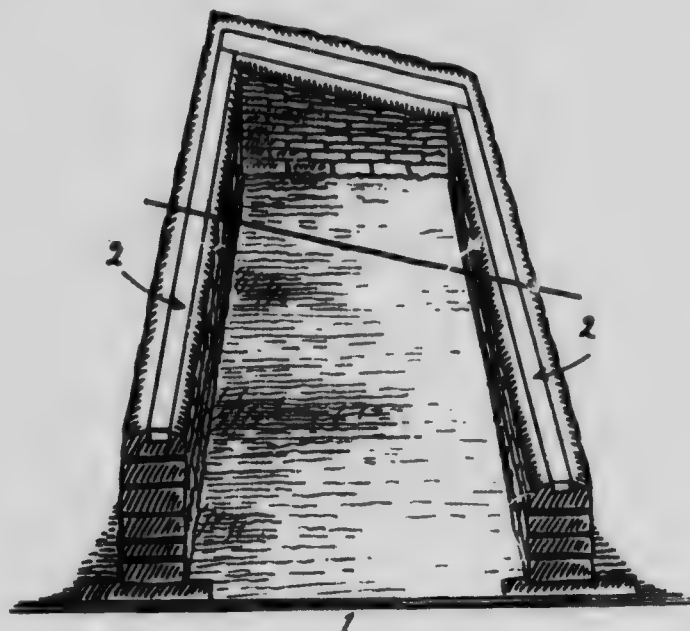
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two to prevent the glass slipping down, and two, at 1 inch from the bottom of the square, to prevent its lifting from the bed of putty. No top putty is needed; that makes for economy in construction and in the use of paint afterwards, as all paint used will be put on the wood itself and not, as is often the case, on loose putty while the wood decays underneath. Lights less than 6 feet in length do not require flat-iron cross-rods screwed to each rafter, but lights 6 feet long should have rods of this kind, and lights more than 6 feet should be bound together with two rods. The latter ought to be $\frac{1}{4}$ inch thick and $\frac{3}{4}$ inch wide.

If possible, provide a course of bricks, not set in mortar, for all wooden frames to rest on, except when the frames are placed on hotbeds. Directly the bricks of a frame are laid, wash the walls, inside, with water and a whitewash brush; then wash them with cement and water of the consistency of paint, and when dry, whitewash them. All holes are thus filled, and the walls are rendered proof against insect pests and fungi.

How to Make a Hotbed.—The best materials for a hotbed are Beech, Birch, and Oak leaves and stable litter—three barrowloads of leaves to



The Turf Frame. No. 1.—Shows elevation. No. 2, 2.—Wood sill for glass lights to rest on. No. 3.—Whole turf. No. 4.—Half turf. No. 5.—Shows wood sill 2½ inches by 4 inches. No. 6.—Front elevation

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five of litter. The latter should be collected daily, for preference, and spread out thinly in an open shed, to be turned over daily until the required quantity is collected. Then throw it all into a conical-shaped heap for twenty-four hours to get rid of the rank gases; afterwards, spread it all out again, thinly, for twelve hours. It will then be fit to mix with the leaves and form a hotbed. Shake out lightly all the materials as the bed is made; they will eventually settle down evenly and firmly. Early in autumn and in summer the hotbed may need to be moistened and trodden down, but not in late autumn and winter, as the weight of the frame, pots, boxes, soil, etc., will make the bed quite firm. The hotbed should be 18 inches wider each way than the frame to be placed upon it. When a hotbed is made inside a frame, tread the materials down well near the sides; this is very necessary. Of course, hotbeds may be constructed entirely of litter, with more leaves, or less, than stated. A hotbed is made to engender and conserve warmth, to promote the early growth of seedlings, plants, and cuttings, and to facilitate the rooting of the latter. A steady, lasting heat is desirable for the purposes named, and it is ensured if the bed is prepared as described.

Broccoli and Cauliflower

VEGETABLES IN AUTUMN AND WINTER

As the heat from the sun declines, and the nights become longer and colder, the growth of young vegetable plants is slower, and those already maturing require careful management to prevent decay, so the frame will be found doubly useful.

Broccoli. — Only in exceptionally severe weather should the frame be used for sheltering Broccoli; the plain turf frame will serve the purpose. If the frame is required for naturally tender plants, the forward Broccoli may be lifted and replanted very closely together in a border and with their heads turned towards the north. Try, if possible, to have a current of air passing through the frame both day and night, unless there is frost; this can be achieved only by ventilating freely. When applying water, be sure it does not wet the heads or lodge in the leaves. We generally experience the worst weather and most severe frost from January 10th to the first week in March, and it is during this time that frame protection is most required in the case of Broccoli.

Cauliflower. — Both young and maturing plants, may be placed in the frame, the former

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from September until March, the latter until the flowers or heads are ready for use. But in each case cool treatment must be given; there must be no coddling, or covering with mats or litter except when there is severe frost. Fresh air in abundance during favourable weather is essential to success.

For the young plants, prepare a bed of fairly rich soil 6 inches deep, and make it rather firm. Put out the plants 5 inches apart each way, water through a rosed watering-can, keep the glass lights nearly closed for three days, then open them wider each day, until at the end of a week they are removed altogether, except at night and when really cold, bad weather prevails. Do not apply much water, but keep the soil fairly moist. If slugs are troublesome, scatter sifted coal or coke ashes on the surface of the soil. In April, lift the young Cauliflower plants and transplant them with the aid of a garden trowel, with as much soil as possible adhering to the roots, in a prepared border outside. The border soil must be enriched with rotted manure, and liberal supplies of manure water may be given when the heads are forming. Early varieties should be grown; they will be ready for cutting in June.

Cauliflowers cannot be depended upon to be



Broccoflower—a valuable spring vegetable

The Garden Frame ■ ■ ■ ■ ■

ready for use on a given date, though the plants are put out at the same time. When the early frosts come in October, many nice heads will be forming, others scarcely showing. But it would be foolish to pull up and throw away such plants, or to leave them unprotected against frosts. Take each one up very carefully and replant in the frame as advised in the case of Endive. The soil must be a foot deep, the plants arranged rather closely together, each one leaning slightly towards the north, so that the heads or flowers will not be discoloured if the sun shines on them while they are in a slightly frozen state, as they may be in case of a sudden, severe frost. Only apply clear water and in just sufficient quantity to keep the leaves fresh. Be sure that all decaying leaves are removed regularly, as, if left for several days in a decayed condition, they become offensive, and also cause the loss of others near them.

Endive.—All plants possessing well-developed centres, growing in an outside border in heavy, retentive soil, should be carefully lifted and replanted in the frame. Trim off a few of the outer leaves if seared or broken, and plant close together—closer than they were in the border out of doors—in a bed of loam and leafsoil, 6 inches deep. As the plants are put in, cover the surface

 Lettuce

of the soil with sifted ashes 1 inch deep. Give just sufficient water to maintain the freshness of the leaves, and abundance of air to prevent loss from decay. Nearly close the lights if the weather is frosty or foggy. Pull out the plants when using them. They will be in fit condition to use from the end of September until mid-winter.

Lettuce.—Lettuces are plants that all amateurs can grow really well in a frame. We will first deal with the young plants that are to be wintered in the frame. A Lettuce, in its early stages of growth, is easily spoilt. Overcrowding which really causes semi-darkness round each plant as well as lack of nourishment, is the greatest evil; too much shade, cast by such objects as buildings, trees, fences, etc., is equally bad. When weakened in this way, they never recover normal strength again.

We are now dealing with the treatment of the plants in the autumn, and we must remember that they have to withstand the weather of November, December, January, and February. So our object must be to keep them sturdy. Do not trouble if the plants make but slow growth during the four months named; such a condition is the best. The Cabbage Lettuce is most suit-

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able for growing in a frame. Put down a thin layer of well-rotted manure, then 4 to 6 inches depth of 2 parts loam and 1 part rotted manure and leafsoil, mixed; make this compost moderately firm, and plant the Lettuces 7 inches apart each way in October. It is a good plan to raise the back portion of the bed in the frame so that its slope corresponds with that of the "light." Sprinkle sifted ashes all over the bed and be sure that the watering and ventilation are closely and carefully attended to.

Old Lettuce plants should be given treatment similar to that advised in the case of Endive. They will improve a little in the frame, but the main object in placing them there is to prevent loss in low-lying districts. They will be useful during winter and the young plants will be ready towards the end of March and throughout April and May.

Mushroom.—Mushrooms form one of the most profitable of all crops grown in frames during the autumn and winter months; the frame may be on the level ground or partly sunk below it. There are three principal points to note, namely: to obtain suitable and well-prepared manure, and to ensure freedom from cold draughts and complete darkness. The two latter are easily secured,

Mushroom

the first needs very careful attention. Stable manure, from which some of the straw has been shaken out, makes the most satisfactory bed. This manure may be used alone, but where it is not very plentiful, and tree leaves—those of



In the absence of other suitable accommodation, Mushrooms can be grown in a tub; this is filled with manure prepared as described, covered with soil and kept dark

the Oak, Beech, and Birch—are available, the leaves may be mixed with the manure in equal proportions, or one-third leaves to two-thirds littery manure. To make a bed of ordinary size, eight barrowloads of manure and four of leaves would be required. If the amateur can procure the whole of the manure at one time in a quite fresh condition, he must spread it out thinly in an open shed and turn it over every morning

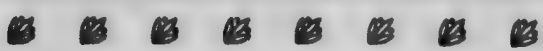
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for a week or so. At the end of that time he must throw up the whole into a conical-shaped heap and leave it so for about sixteen hours, then open it all out again for a day and night. This work is necessary to get rid of the rank gases in the manure, which would kill the mushroom spawn and thus prevent the growth of the crop. September is the best month in which to make a start.

If the manure cannot be obtained at one time in a fresh condition, it must be collected in small quantities and spread out in a shed in a thin layer, turned over every morning, heaped for sixteen hours, and otherwise treated as advised in the case of a single cartload obtained at one time. When leaves are added, they must not be mixed with the manure until the bed is being made, or until the rank gas is expelled from the manure. Further, the bed must be 4 inches deeper than when stable manure only is used. The bed without leaves should be 14 inches deep when trodden down as firmly as possible, and 18 inches deep if tree leaves are added.

Shake out the material thoroughly as the bed is built up, and tread down each layer as it is put on. Make sure that the sides are well trodden. Firming is done with a view to securing a lasting



Mushroom

heat in the bed. The heat will rise to probably 100° or more, but the spawn must not be put in until the heat is about 85° on the decline.

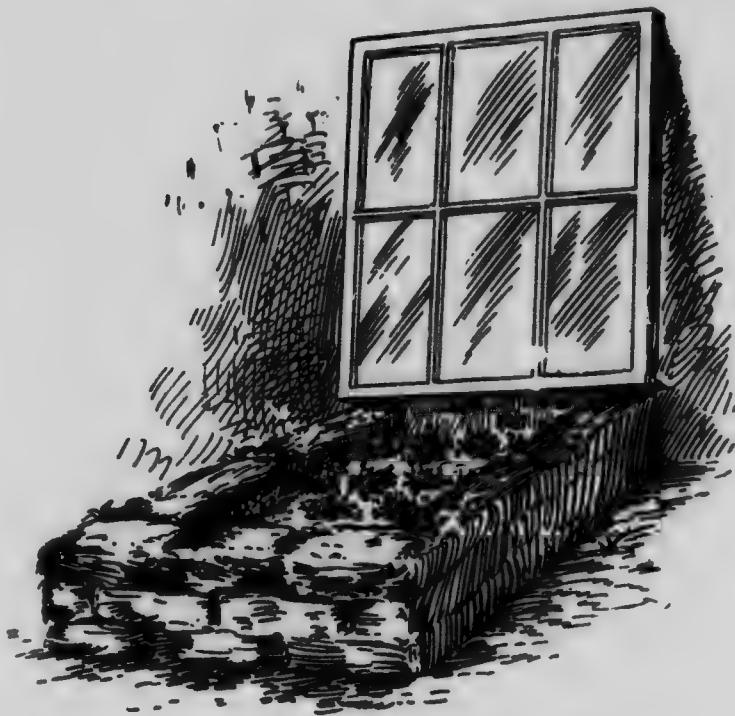
Place the bricks of spawn on the surface of the bed for two days before breaking them up into pieces measuring 1½ inches or so each way. The pieces of spawn must be inserted 2 inches below the surface of the manure and 9 inches apart, all over the bed; then make the bed firm again and cover it with soil, passed through a ½-inch mesh sieve to the depth of 2 inches. Make the soil firm with the back of a clean spade, and at once cover all with dry straw or hay 1 foot thick. Mats or litter may, in addition, be placed on the glass outside. Do not water the beds. In about five weeks' time the tiny Mushrooms will appear, and if the bed is carefully treated—kept dark and not exposed to cold winds—Mushrooms will continue to grow for two months or so. If the surface of the bed gets very dry, syringe or water it lightly once or twice with tepid water, adding a dessertspoonful of salt to a gallon of water.

Do not cut off the stems of the Mushrooms when gathering them, but pull them up and cut off the roots. The manure is afterwards very good for potting composts and crops in the garden.

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Parsley.—This is a valuable plant to grow in a frame during the winter. Strong young plants, lifted from an outside border, should be



A simple way to ensure a winter supply of Parsley is to plant in a turf frame in autumn. Sow seed in July

put in the frame, in a bed of rich but firm soil in September. Keep the plants clean, water when the soil approaches dryness, and admit plenty of air. Fresh young leaves will then be available throughout the winter.

 Rhubarb

Rhubarb.—If very early “sticks” are required, make a hotbed, for when the soil round the roots is warmed the new growth is rapid. On the hotbed place a layer of soil 8 inches deep, then pack the Rhubarb roots close together on



Forcing Rhubarb in a bed of soil in darkened frame
placed on a hotbed

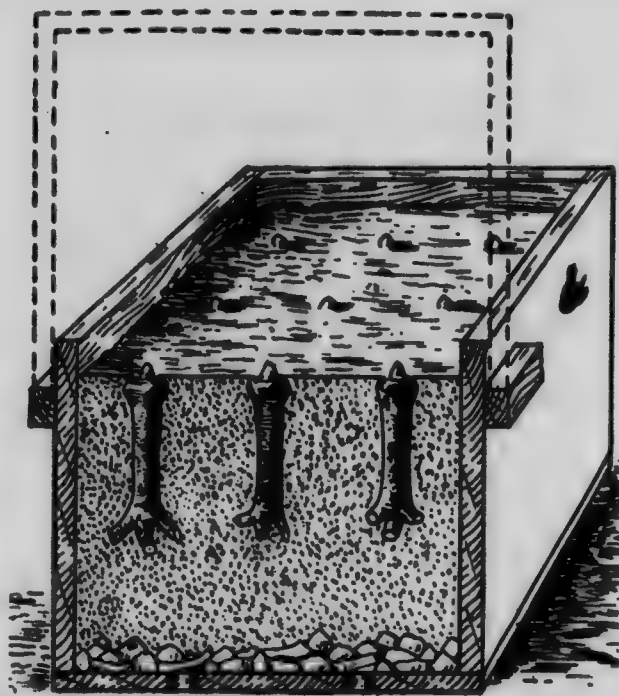
the soil, and fill round them with fine soil. Water once to settle the soil, then close the frame and cover the glass to ensure darkness. If there is any rank steam arising from the hotbed leave a small opening at the top of the frame for its escape, otherwise the Rhubarb will be tainted. The fresh “sticks” will be available at Christmas or soon after, and those grown in a frame,

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but not upon a hotbed, will keep up the succession.

Seakale.—This valuable vegetable may be treated in a similar way to Rhubarb, but if empty pots are placed over a number of clumps, the young stems are drawn up better and well blanched and fit for cooking soon after Christmas. Strong crowns, planted in friable soil in turf frames and covered with ashes, at first, 6 inches deep, will



Seakale can be forced in a box of soil. Plant as shown here. Place framework over the box and cover with a mat

form a succession without the aid of heat or glass lights. As the tips of the young stems show through the ashes add more of the latter to a depth of 3 inches to complete the blanching.

VEGETABLES IN SPRING

Asparagus.—In ordinary times one, or at most two, crops may be taken from a frame. Now, we want more. In some frames certain crops may be allowed to mature; in others, young vegetables should be raised in the frame with a view to transplanting them in the garden later on, and thus securing extra early crops out of doors. To grow Asparagus, first make a firm hotbed, cover the surface with good soil (passed through a 1-inch mesh sieve), to the depth of 3 inches. Plant strong crowns of Asparagus on small ridges of soil, so that the roots of one touch or overlap a little the roots of another; then cover the crowns 4 inches deep with more sifted soil. Apply water through a fine-rosed watering-can at the time of planting, and afterwards keep the soil moist. Sow Lettuce seeds thinly, broadcast, and rake them in. Cover the glass with mats every night and all day in frosty weather. If planted early in January, the Asparagus will

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be fit to cut in March, several weeks before it is ready in outside borders, and a crop of Lettuce is obtained also.

Brussels Sprouts.—Raise an early batch of young plants in boxes or flower-pots from seeds sown about the middle of January. Use good compost, about 4 inches deep, in which to sow the seeds. Sow thinly, and transplant the seedlings 8 inches apart in other boxes or in the bed of soil in the frame, when they show the second rough leaf. A second transplanting may be advisable before the Brussels Sprouts are planted in their final quarters outside. There must be no check to growth, neither must the plants be unduly forced, or they will suffer later on just when they should be making good progress. The Sprouts will begin to form in August and be plump and in fit condition to gather in October and onwards. Scrymger's Giant, The Bullet, President Carnot, and Aigburth are excellent varieties to grow.

Carrot.—Carrots are best grown in good soil in a bed in the frame, and not in boxes. If the bed of soil rests on a mild hotbed, so much the better. The soil should be at least 7 inches deep; if 9 inches deep, so much the better. The bottom portion should be broken up as finely as possible

 Carrot

with the aid of a garden fork, and the top 4 inches passed through a $\frac{1}{2}$ -inch mesh sieve. Carrots thrive best in a light compost, so it is not wise to make the bed very firm. The best plan is to give a thorough watering through a rosed watering-can four days before the seeds are sown; the soil will then be sufficiently firm and in really good condition to receive the seeds. The latter should be sown thinly broadcast, and evenly, and covered a $\frac{1}{4}$ inch deep by sifting some fine soil on them. Keep the lights closed until the young Carrots appear, then ventilate a little in fine weather. If the bed is on a hotbed, leave the "light" slightly open at the top of the frame every night. Put on mats or litter in severe weather, but be careful to give the young plants as much light as possible, as semi-darkness would weaken them. Later in spring, when all danger from frosts is past, remove the glass lights, or both lights and frame. Carrots always form better roots when exposed to plenty of air in favourable weather; this fact should be remembered when ventilating the frame. Long-rooted Carrots should not be grown in a frame; select the stump-rooted ones. Such varieties as French Forcing Horn, English Scarlet Horn, and Early Gem should be preferred. If seeds are sown in February the roots are fit

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to draw in April. Those sown on a hotbed early in January produce roots fit to draw in March.

Cauliflower.—Only in cases where garden frames are numerous and can be spared for the purpose should Cauliflowers be grown and matured in them. The amateur should aim at raising a batch of young plants for transplanting in the garden or allotment in due course. Now, let us see how this can best be done. Cauliflower plants are “gross feeders,” even in a young state, so it will be necessary to procure a box about 6 inches deep, place a layer of rotted manure 2 inches deep in it, then some really good compost, such as that in which Chrysanthemums have been grown. Failing this, make use of the following : fibrous loam 2 parts, leafsoil 1 part, rotted manure 1 part. In January or early February, sow the seeds thinly and cover them $\frac{1}{2}$ inch deep. Be prepared with other boxes similarly filled with manure and soil in which to transplant the young Cauliflowers, 8 inches apart, when they show the second rough leaf. Take care not to damage the stems while handling the seedlings. When water is needed, do not merely moisten the surface, but apply sufficient water to wet the whole of the soil through. Do not “coddle” the plants in the frame, but gradually harden them ready

 Cabbage

for the final planting in the open border in April. Grow the early varieties which will "turn in" soon after Midsummer's Day. Early Snowball, Erfurt Early Dwarf, Early Market, and similar sorts should be selected.

Cabbage.—Young plants, raised in the same way as Cauliflowers, are extremely useful, as they supplement the stock of plants raised during the previous 'tumn. Those sown in early February will be ready to plant out in April. Thus the garden frame may be put to an excellent purpose where Cabbages are concerned. April Queen, Ellam's Early, Cocoa-nut, Flower of Spring, Early Dwarf York, and Early Rainham are varieties that should be grown.

Lettuce.—As a frame crop, this is one of the best. The plants grow quickly and so mature at an early stage. Provide rich soil, and sow the seeds in boxes or in a bed. Do not overcrowd the seedlings. Select the strong ones and transplant them 3 inches apart in boxes or a bed, when the third rough leaf has formed. Always use a rich compost, as fairly rapid growth is essential to success. The final planting should be made at about 8 inches apart each way in a bed of soil 1 foot deep. Apply water, when needed, early in the day, keep the surface soil between the

The Garden Frame ■ ■ ■ ■ ■

plants loose, and ventilate freely in fine weather. Autumn-planted Lettuces should be fed a little in spring; they will be ready for use towards the end of March, and the others will form a succession. The Cabbage Lettuce is the best for growing in frames. All the Year Round, Early Market, All-Heart, and Early Paris Market are fine varieties.

Mushroom.—The treatment is the same as in the case of autumn-grown Mushrooms in frames (*see* page 20), except that more covering material and more atmospheric moisture will be necessary to guard against the ravages of the Mushroom grub. Keep the temperature inside the frame as cool as possible, and with thick coverings.

Onion.—The frame cannot be put to a better use than by raising young Onions for planting-out in April. Procure a few boxes 6 inches deep and fill them with, first, a layer of rotted manure, then a thin layer of soil in which a small quantity of soot has been mixed; finally, nearly fill the box with a rich compost. Make the latter firm and water it. In late January or early February sow the seeds thinly and evenly, and cover them $\frac{1}{2}$ inch deep. When the seedlings are about 3 inches high, carefully transplant them in boxes filled similarly to the others. Preserve all the roots intact and plant at 3 inches apart. Keep

Onion and Potato

the soil nicely moist, but not wet, by giving a thorough watering when moisture is required. When the young plants are well established in the boxes admit air freely; place the boxes outside early in April to harden for the final planting. Onions so raised will generally be ready for harvesting in the early part of September, and yield a crop of handsome bulk. Some may be grown in frames entirely for salads. Rousham Park Hero, Ailsa Craig, James Keeping, Bedfordshire Champion, Danver's Yellow, White Spanish, Up-to-Date, and Giant Yellow Zittau are a few of the many good sorts to grow.

Potato.—In the frame, Potato “sets” may be “greened” in the autumn, sprouted in boxes in spring ready for planting in due course in the most sheltered plot outside, or in light soil in the frame itself, to provide an extra early crop of young tubers. When the object is to sprout “seed” Potatoes, place them “eye” end upwards, in single layers in shallow boxes; it is only necessary to keep them safe from frost. They must have plenty of light and air. To obtain a crop of new Potatoes as early as possible, provide a little bottom heat. On the hotbed place a layer of good light soil at least 1 foot deep. In February plant well-sprouted tubers 10 inches

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apart in rows 15 inches asunder, and bury them, 5 inches deep. Earthing-up will not be necessary. Water the bed of soil if it is rather dry, and keep the frame closed till growth appears. Always be on guard against frosts, and put on suitable



Potato as sprouted in shallow box



Potato prepared for planting.
All but two of the sprouts
have been removed

coverings if cold weather threatens. Ventilate according to the weather conditions, admitting air freely in mild weather, and so maintain a steady, sturdy growth of haulm. The very early varieties, such as Midlothian Early, will be ready for lifting in about seven weeks from the date of planting if the seed tubers are well sprouted. In addition to this variety, Sharpe's Express,

☛ ☛ ☛ ☛ ☛ ☛ ☛ ☛ ☛ **Potato**

Sharpe's Victor, Early Queen, Duke of York, and Ninety-fold should be grown in frames ; they are favourites of undoubted good quality.

Peas.—The most profitable way of dealing



Early Potatoes may be grown successfully in large flower pots

with these in a frame is to place the seeds, 1 inch apart, in turves of which the grass has died, or in flower-pots or boxes filled with soil, and transplant the seedlings in shallow, prepared trenches out of doors in April. Sow the seeds in good compost, water, and admit air freely in fine

The Garden Frame



weather. Pods from the early varieties may be gathered the last week in May and the first week in June if the seeds are sown in January. First and Best, Chelsea Gem, May Queen, Earliest of All, and Laxtonian are excellent sorts for the purpose.

Parsley.—Plants put in a bed of soil in the frame during September will be profitable in spring. Raise seedlings in boxes in spring for planting out for use by mid-summer's day. Use good soil.

Radish.—Splendid crops may be grown, without bottom heat, in a bed prepared as recommended for Potatoes and Carrots. The secret of success lies in sowing early varieties thinly and evenly, and affording ample ventilation in favourable weather. Wood's Early Frame, French Breakfast, and Early Turnip-rooted are the best to grow. Tender roots will be ready for pulling in one month or so from the date of sowing.

Seakale.—Treat this the same as recommended for autumn forcing, on page 26. It will grow more readily now. The same remarks apply to Rhubarb.

Tomato.—In a frame on a hotbed, seeds may be sown in January; in a cold frame do not sow before the middle of March. Place the seeds,

 Tomato and Turnip

1 inch apart, on the surface of good compost and cover them $\frac{1}{4}$ inch deep. Water carefully, and transplant the seedlings while from 1 to 2 inches high. The first lot will produce ripe fruits in June, the crop from the second sowing will be ready late in July. Use a good, loamy compost, and admit plenty of air as the spring advances. Kondine Red, Ailsa Craig, Bide's Recruit, Sunrise, and Best of All are good varieties.

Turnip.—Prepare the bed as advised for Radishes. Sow the Turnip seeds thinly, and ventilate freely. Long White Frame is a good sort to select. The roots are ready for use in six weeks or so from date of sowing.

Vegetable Marrow.—Sow two seeds in a 5-in. flower-pot. The plants from seeds sown in February, in a hotbed may be allowed to bear fruit in the same; those from seeds sown early in April should be planted out of doors early in June. Pen-y-Byd is a fine frame variety, and Moore's Cream, Long White, and Long Green are excellent for out-door use.

Mustard and Cress are easily grown in boxes filled with rich soil. Sow the seeds thickly on the surface, after watering press them in, but do not cover with soil, and keep constantly moist.

THREE CROPS AT ONE TIME.—Plant Potatoes,

The Garden Frame .

and immediately sow, broadcast, seeds of Radish and Lettuce; rake them in the soil, and they will soon produce crops fit for use without interfering with the Potatoes.

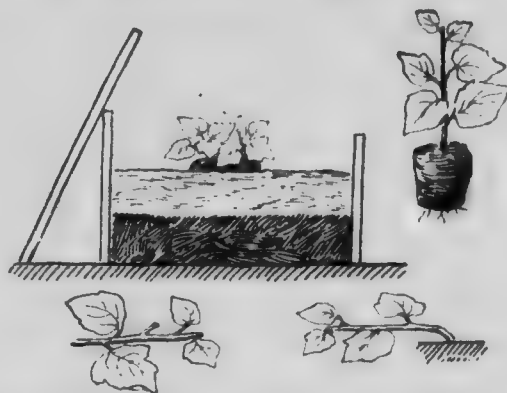
FRUITS AND VEGETABLES IN SUMMER

The chief vegetables and fruits suitable for cultivation in the frame during the summer months are Cucumber, Tomato, Melon, Vegetable Marrow, Carrot, Egg Fruit or Aubergine, and Radish and Lettuce if necessary.

Cucumber.—It is advisable to make up a small hotbed of fresh manure, turned several times before it is used; on top of this are placed one or two mounds of soil according to the size of the frame. A compost of loam and leaf soil is best. The seeds are sown singly in small pots in early April, and when the seedlings are nicely rooted they are planted out, one in each mound of soil. If the frame is kept warm and moist they will make rapid progress, and when about 6 inches high the point is pinched off each. This will cause other shoots to develop, which will most probably show blossom. If they do not, these shoots in turn should be "stopped." The available space will soon become filled, and

🍃 🍃 🍃 🍃 🍃 🍃 🍃 🍃 **Cucumber**

eventually fruits will form. Cucumbers like warm, moist conditions ; air may be given freely in warm weather during the day, but the frame should be closed before the sun has ceased to shine upon it in the afternoon ; then the temperature will be considerably increased by natural



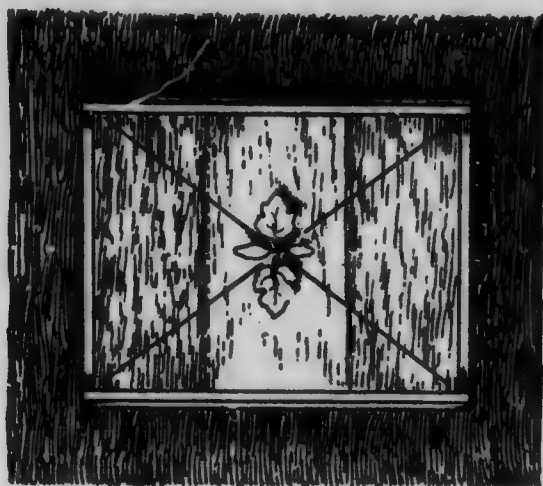
Growing Cucumbers in a Frame. Two plants may be placed on a mound of soil. Pinch off the ends of the shoots as shown

warmth. Before the frame is closed the plants ought to be well syringed. It is necessary to syringe Cucumbers at least twice a day in the summer—in the morning and again in the afternoon before the frame is closed ; otherwise red spider and thrips, two minute pests that do a great deal of damage, may attack the plants. Of the numerous varieties of Cucumber available Every Day and Rochford are two of the best.

The Garden Frame



Melon.—The raising of seedlings and the planting are carried out in the same way as advised for Cucumber; the soil used should consist of turfy loam. The plants are similarly pruned while young, in order to ensure the pro-



Melon plant in Frame. Train the shoots as shown by the lines

duction of side shoots, which will bear blossoms. It is necessary to pollinate the female or staminate flowers of the Melon with pollen from the others, but care should be taken to do this only when several flowers are open at the same time; otherwise those fruits which set first will develop rapidly and the others will never do well. Before they are in bloom, and when the fruits are swell-

 Egg Fruit

ing, the Melon needs similar treatment to the Cucumber, but while the plants are in bloom, air should be admitted freely and the atmosphere be kept dry. Hero of Lockinge is a good variety for growing in the frame.

Aubergine or Egg Fruit.—This is grown by very few amateurs, yet the plants, which need somewhat similar treatment to the Tomato, are not difficult to cultivate, and the fruits make a most acceptable dish when fried. Seeds are sown singly in small pots of soil, placed (preferably on a hotbed) in the frame in March. The seedlings are subsequently repotted into flower-pots 5 inches wide, and again into those 7 or 8 inches wide in which they will fruit. They need to be kept perfectly cool throughout the summer, and no pruning is required. The fruits vary in colour according to the variety, but the dark purplish sort is most commonly grown.

Tomato.—Seeds are sown in a flower-pot or pan of soil placed on a hotbed of soil in the greenhouse in early March, and when the seedlings are ready they are potted singly in small pots, subsequently into 5-inch or 6-inch pots and finally into those of 9 or 10 inches in diameter. Or they may be planted out in a bed of good loamy soil, made

The Garden Frame

up at the top or bottom of the frame. If Tomato plants are allowed to grow upright they become, of course, too tall for the frame, so the best way is to train them on a rough trellis formed of bamboo canes a few inches beneath the "light." They are then fully exposed to air and sunshine, which are so essential to their successful cultivation. Very little attention is required beyond removing all side shoots, those that arise between the base of the leaves and the stem, and tying the latter to the trellis. If it is found that the leaves become unduly large, they may be shortened by one-third or half, to allow of more light reaching the fruits. If the plants are grown in pots, great care must be taken that they do not become dry at the root; the soil should be moistened through as soon as it is slightly dry. Sunrise is an excellent variety for cultivation in this manner.

Vegetable Marrow.—If there is room out of doors, it is scarcely worth while devoting a frame to the cultivation of this fruit, though it thrives admirably there. Seeds are best sown where the plants are to grow, in a bed of loamy soil made up in the frame; that is a better way than sowing in pots. The plants must be watered freely when in fruit, and some attention should be given to the arrangement of the shoots, so

■ ■ ■ ■ ■ Vegetable Marrow

that they do not overrun each other. One or two plants are sufficient to grow in a frame. It is best to choose one of the smaller varieties, as,



Aubergine or Egg Fruit. The plant requires much the same treatment as the Tomato

for instance, Pen-y-Byd. During the warm weather the "light" must be taken off the frame.

Carrot.—The garden frame proves invaluable for growing Carrots in those districts where the ravages of the Carrot fly make it impossible to

The Garden Frame

grow this vegetable out of doors. A bed of fine soil or sand, 8 inches or so in depth, should be made up in the frame; the surface ought to be within 6 or 8 inches of the glass. If long-rooted varieties are wanted the depth of soil or sand must be increased. Ordinary river sand is suitable, but silver sand is valueless. This method of Carrot growing in sand was first brought to notice by the Rev. Harold Mayall, who has found it completely successful in his Highland garden. The seeds are sown in April in shallow drills about 10 inches apart, and are lightly covered. Before sowing, the sand should be thoroughly moistened; if soil is used, that also ought to be watered and made moderately firm. The frame is kept closed until germination takes place; thence onwards, a little air is given until, when the weather gets warm, the light is taken off altogether. A stump-rooted variety of Carrot should be grown if the depth of soil is not more than 8 inches.

Radish and Lettuce.—These salads can be grown to perfection in a frame during the summer, if the latter is in a partially shady position, but as they can be grown well out of doors it is not, as a rule, worth while devoting a frame to their cultivation, unless for some special purpose.

Autumn Management

FLOWERING PLANTS IN AUTUMN

The details of management ought to be carried out with care in autumn, especially when dull, damp weather sets in, otherwise the plants are bound to suffer. An item of importance is to water very carefully, and never to moisten the soil in the pots until it is fairly dry. Water should be poured into the flower-pots only, and not be spilt between them, for in a cold frame in autumn the chief difficulty is to keep the atmosphere dry, and prevent decay and "damping-off" among the leaves. The top of the frame—called the "light"—must be opened every day in mild weather, so that fresh air may circulate among the plants; they will not thrive if the atmosphere in the frame is what the gardener calls "stagnant." If the thermometer approaches freezing point no air should, of course, be given. Even in windy weather the frame must be ventilated, unless the wind is very cold, but care should be taken to tilt the light only on the leeward side. On wet, mild days, the light should be raised at the back by means of a piece of wood; while in mild, dry weather it may be pushed down from the top. It is necessary to pick off and burn all

The Garden Frame



dead or decaying foliage. If mildew attacks any of the plants, sprinkle them with a little powdered sulphur and scatter some of this between the flower-pots. In the event of severe weather, the temperature of the frame can be raised several degrees by covering the glass with mats or sacks. If the plants and their surroundings are kept dry, they will withstand a greater degree of cold than when they are exposed to wet.

Sweet Peas.—The best way of growing Sweet Peas is to sow the seeds singly, in small pots, placed in a cold frame in early October. They will soon germinate, and the little plants must be grown very hardily during winter, air being freely admitted except in cold weather. They will then be strong and well branched, and ready for putting out of doors in April. It is usual to pinch out the point of each seedling in spring, and to allow two or three of the subsequent shoots to develop into stems.

Hardy Annuals in Pots.—If seed of some of these is sown in September, they will prove most welcome in spring, and will blossom long before those in the open garden. It is best to sow seed thinly in 6- or 7-inch pots, and to thin out the seedlings to from three or four to a dozen according to the kind of plant.

Border Carnation.—In gardens in cold districts, and of which the soil is wet and heavy, it is usual to keep the rooted layers in pots in a frame during winter. The layers are taken up and potted singly in 3-inch pots in October, and will pass safely through the severest weather in a cold frame. They will need very little water in mid-winter, but they must be kept cool. In March they will be well rooted and ready for the garden.

Perpetual Flowering Carnation. — The varieties of this type are hardy in many gardens, and in others can be kept through the winter in a cold frame. They will not, however, blossom until the advent of brighter weather in spring. Cuttings are made from side shoots in spring, and are inserted in small pots of very sandy soil and placed beneath a handlight in a closed and shaded frame. They must be kept moist by syringeing. When rooted, they are potted singly in small pots, and subsequently into those 5 inches in diameter; in these they will pass the winter in the frame. In spring they may be repotted into larger pots or planted out of doors.

Early Flowering or Border Chrysanthemums.—In some gardens in cold districts, and

The Garden Frame

in those possessing heavy soil, these indispensable plants are liable to die during winter. If some of the best of them are lifted in autumn, and planted in a bed of soil in the frame, or potted and placed therein, they will pass through the winter safely, and numerous cuttings may be taken in spring when the plants start into growth.

Large - flowered Chrysanthemums. — In December and January, cuttings of these are inserted in small pots of sandy soil and placed in the frame. They form roots in the course of three or four weeks, if the frame is kept closed and the soil moderately moist, though they must not be watered at all freely until roots have formed. A little warmth is an advantage in severe weather, but it can be dispensed with providing the frame is covered up by means of mats or sacks.

Roses in Pots.—These may be grown admirably in a cold frame. Choose a few of the best plants from the garden, and in October pot them in 7- or 8-inch pots, in a compost of loam with which a little bonemeal and decayed manure are mixed. They must be kept as cool as possible during winter, though the frame should be closed in severe weather. In early March, the roses are



Roses in Pots

pruned to within two buds of the base of the previous year's shoots, and they will blossom in advance of those grown out of doors; moreover, the buds and blossoms will be clean and fresh and the stems will be long.

Cuttings of Tea Roses.—If inserted in the garden these are not, as a rule, so successful as those of hardier roses; the garden frame is, however, an ideal place for them. Take the cuttings in October, making them 8 or 10 inches long, and insert them in a bed of soil in the frame or several together in large pots. If possible, from one-half to three-quarters of the stem should be placed beneath the soil, the latter being made firm. It is advisable to keep the frame closed for a few weeks to encourage rooting, but if there are other plants there, which need more air, the rose cuttings should be covered with a bell glass or handlight. They will be ready to plant out of doors in early summer.

Viola or Tufted Pansy.—Cuttings of this favourite bedding plant are admirably suited by the cold frame. The cuttings are taken in September and are inserted in a bed of sandy soil made up in the frame; they should be dibbled in the soil at about 2 inches apart. If the frame is kept closed for three weeks or so, the cuttings



Making a Pansy or Viola cutting. The prepared cutting is shown on the right

will have taken root. Throughout the winter they should have as much air as the weather conditions will allow, and be very sparingly watered. The young plants are put out of doors in late March or April.

Pentstemon.—This is one of the most valuable of late summer flowers. It is easily propagated by means of cuttings taken in September. The cuttings are formed of side shoots, and should be about 8 inches long; they are treated similarly to those of Viola. The Pentstemon is hardy in some gardens, but plants raised annually from cuttings can be depended upon to give a better

Snapdragon

display than older plants, while in some districts the latter may be killed in winter.

Snapdragon.—This delightful flower is easily raised from cuttings taken in late summer, and inserted in pots of sandy soil placed in the frame, or in a bed of soil prepared as for *Viola* cuttings. This method of increase is chiefly valuable because it enables one to perpetuate any special variety, but the commonest way to raise a stock of plants is by sowing seeds in summer



Inserting *Viola* cuttings in soil in the Frame.
The surface is covered with sand before
the cuttings are put in

The Garden Frame



out of doors, or in a warm greenhouse in the spring.

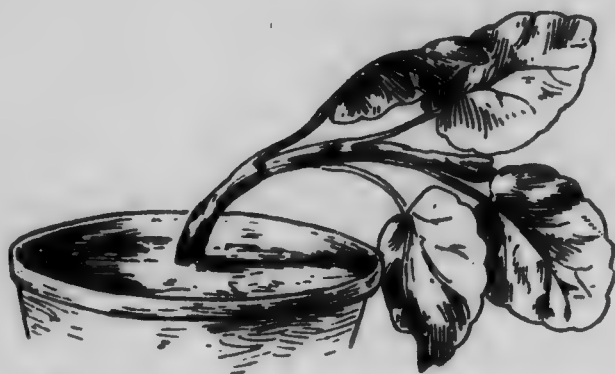
Scarlet Lobelia.—This brilliant flowering plant, which likes moist soil and a little shade, is not hardy in all gardens, and when there is any doubt the roots should be lifted in autumn, potted, and kept in the cold frame; or they may be placed in the frame and covered with soil.

Geranium Cuttings are taken off the old plants in August and September, and are placed in pots or boxes filled with sandy soil; they should be watered as soon as inserted, but very little further water is required until the cuttings are rooted. A cold frame is just the place for them; it must be kept dry and airy, then the cuttings may be expected to form roots freely. In close, moist conditions of atmosphere, and especially if given too much water at the root, they will "damp off" in large numbers. Geraniums may be kept throughout the winter in a cold frame if necessary, providing protection is given in severe weather.

Calceolaria.—The shrubby Calceolaria, which is so largely used for summer bedding, is very easily propagated by means of cuttings taken towards the end of September and early in October.

Geranium Cuttings

If inserted, either in pots of sandy soil, or in a bed of similar compost made up in the frame, they will soon root. The frame ought to be kept closed for a few weeks, but during mild weather in winter, air must be admitted freely. The herbaceous Calceolarias, which make such a



If Geranium cuttings are given too much water, they "damp off" as illustrated

brilliant display in the greenhouse in spring, with their handsomely spotted, pouch-like flowers, may be grown in a cold frame. They will even put up with a little frost, though it is not wise to allow frost to reach them. Seeds are sown in May, and the seedlings are grown in a cool frame in summer. In autumn they will be in flower-pots 4 or 5 inches wide, and remain in those until spring, when they are repotted into others 7 or

The Garden Frame

8 inches wide. They must be kept cool during winter. In severe weather protection is given by means of mats, etc. Very great care in watering is necessary; the soil ought not to be moistened until it is fairly dry; the pot is then filled to the rim, and no more water is given until the soil is again fairly dry. This rule applies to the watering of all plants in pots in the frame in winter.

Cineraria.—This is not so hardy as the herbaceous *Calceolaria*, but it is possible to grow the plants in a frame. They must be protected from frost, but otherwise they need only to be kept cool and watered with care. From seed sown in summer, the plants will be ready for repotting into pots 4 or 5 inches wide in late summer, and in those they pass the winter. They are finally placed in pots 6 or 7 inches wide in February.

Marguerite.—This favourite plant is hardier than is commonly supposed, and cuttings taken in late summer will, if inserted in pots of sandy soil in a closed frame, soon form roots. Throughout the winter they need the same treatment as *Cineraria*; they remain in the same pots until spring, and are then repotted singly into other pots.

 Wallflower

Wallflower.—If, when Wallflowers are planted in the beds in October, a few are potted in 6- or 7-inch flower-pots, and kept in the cold frame during winter, they will prove very useful for the greenhouse or room window in spring, and will bloom in advance of those in the open garden. They must be kept moist at the root during winter, but the soil should not be in a saturated condition; the frame must be ventilated freely in mild weather.

Bulbs in Pots.—The frame is invaluable for the accommodation of bulbs in pots, such, for example, as Freesia, Lachenalia or Cape Cowslip, and Roman Hyacinth potted in August, and Daffodils, Hyacinths, and Tulips potted in early autumn. If the frame is kept dark, but cool, the bulbs will be well rooted in six or seven weeks; and can then be taken into the greenhouse or room window; if the frame is not required for any other purpose they may remain there throughout the winter. Bulbs should be well watered immediately after they are potted, but the soil will not need moistening more than about once a week afterwards, until growth begins. When the leaves appear the plants must be exposed to light.

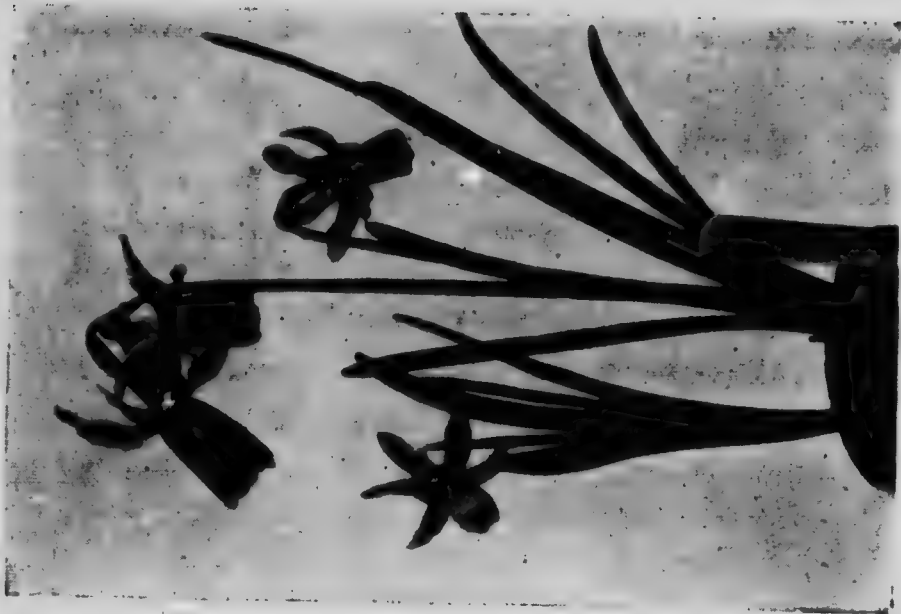
Primula.—Chinese Primulas in great variety

The Garden Frame



of colouring and *Primula obconica* may be grown in a cold frame until Christmas or until severe weather sets in. Seeds must be sown in April or early May, to obtain plants that will begin to blossom in autumn. Seed is sown in a flower pan or pot, and when the seedlings are about an inch high, they are placed singly in small pots and subsequently in those 5 inches in diameter. The frame in which they are grown ought to be in a cool, half shady position in summer, but in a sunny one from September onwards.

Violet.—Everyone loves the Violet, especially in winter and early spring when flowers are scarce, and there is no better way of obtaining this delightful flower at those seasons than by putting the plants in a frame in September. The frame should be in as sunny and open a position as possible, so that whatever sunshine there may be shall reach it. A hotbed is made up in the frame consisting of half leaves and half fresh stable manure in the manner described on page 12. When the hotbed has been made firm by treading, it ought to reach to within about 12 inches of the glass. A bed of soil about 8 inches in depth is then placed on the manure and also made firm; when the Violets are planted on the bed of soil they will be within a few inches of the glass;



Queen of Spain Daffodil



Hoop Petticoat Daffodil

The Garden Frame



when the manure and soil have settled down they will naturally be lower, but still fairly close to the glass. Violets for this purpose are propagated in April, by means of runners, or by dividing the old plants, and replanting the best portions; they are planted out for the summer, preferably on a partially shaded border, are taken up in mid-September, and then planted in the frame. The frame should be kept closed and shaded for three or four days to enable the Violet plants to become established. Afterwards, it must be ventilated freely except in cold weather. The Violet is a hardy plant, and winter flowers cannot be obtained by keeping the plants warm; they must be grown as hardily as possible, otherwise they will not blossom satisfactorily. Violets for early spring may be grown in an unheated frame. Watering must be done very carefully; during early autumn the soil will dry fairly quickly, and watering may be necessary once a week, but during winter the soil remains sufficiently moist for weeks together without being watered. All dead and decaying leaves should be picked off, and if the orange-coloured patches of the Violet rust are seen, they should be removed, and the plants syringed with liver of sulphur solution, 1 oz. in 2 gallons of water. Good double Violets

The Violet

are Marie Louise, mauve blue with white centre ; Neapolitan, lavender ; Comte de Brazza, white ; and Lady Hume Campbell, pale blue. Favourite single sorts are Princess of Wales, purple ; La France, blue purple ; and Amiral Avellan, reddish.

FLOWERING PLANTS IN SPRING

During the spring months the ventilation of the frame and the application of water to the plants are matters that call for some judgment. Bright sunshine and cold winds often prevail at the same time, and injudicious ventilation may do a great deal of harm. The "light" should always be tilted on the side opposite to that from which the wind blows, and not to a greater extent than is necessary. The object of ventilation is not to lower the temperature of the frame, but to prevent its getting too high. A little air should therefore be admitted in the morning before the temperature of the frame rises above 60°, and more air must be given as the day advances if it becomes increasingly warm. As the frame contains many seedlings in the spring months, careful ventilation is most necessary, or the plants may collapse. It is good practice to

The Garden Frame



close the frame early in the afternoon before the sun has ceased to shine upon it, in order to keep it as warm as possible during the night, for warm days are often succeeded by cold nights. In the absence of artificial warmth, it is essential to maintain the temperature of the frame by means of natural warmth in this way.

The best way of raising seedlings is to immerse the flower-pot or pan containing them in a bowl or pail of water, to such a depth that the water reaches to the rim of the pot or pan. The soil is then thoroughly moistened through, and the seedlings are not disturbed. If watered in this way the little plants are less likely to suffer from "damping off," a disease that causes the seedlings to decay at the base and to collapse. Neither does the soil dry so quickly as when it is moistened on the surface by means of a watering can or syringe. Seeds are sown in properly drained flower-pots or flower-pans—preferably in the latter, for they are wider and shallower than the former. Small seeds need only to be covered with a sprinkling of sifted soil or sand, and should then be covered with glass, and shaded with brown paper, to keep them uniformly cool and moist. During the spring months one may raise innumerable flowers from seed in the garden frame. If



Flowers from Seed

the frame is unheated, it is not wise to sow before February, unless a hotbed of manure is made up. In January and February cuttings of *Chrysanthemums* may be taken, and Sweet Peas may be sown as already described in the notes dealing with the frame in autumn on page 46. Bulbs that were potted in autumn will send up flower spikes in early spring, and as soon as the buds show colour they should be transferred to the room windows if no greenhouse is available.

Lilies.—Some of the most beautiful of garden *Liliums*—such, for example, as *Lilium speciosum*, *tigrinum* (Tiger Lily), *auratum* (Golden Rayed Lily), and *longiflorum* (White Trumpet Lily)—can be grown well in flower-pots, or they may be started into growth in pots and planted in the garden in early summer. In fact, it is far better to pot these Lily bulbs and grow them in a frame for a few months than to keep them in bags until the weather allows of their being planted out of doors. Obtain rather large pots—those 7 or 8 inches in diameter—place a few crocks in the bottom, and cover these with a little rough turfy soil; on top of this place a compost of loam, leaf soil and sand, about 2 inches in depth. The bulbs are watered as soon as potted, but no more water is given until the soil is again fairly dry.

The Garden Frame



The Lilies must be kept cool and shaded from bright sunshine. As they grow, and the stems increase in height, the flower-pots are gradually filled with soil, and by early summer they will be well developed plants for putting out in the garden. If it is decided to keep them in pots they must be kept quite moist at the root during summer, and will be all the better for an occasional dose of liquid fertiliser. The stems must also be staked firmly.

Annuals. — Many charming annuals, both hardy and half hardy, can be raised in the frame in spring. The former are usually sown out of doors in March and April, and unless it is intended to grow a few in pots, it is not worth while sowing them in the frame. But such half hardy sorts as Stocks, Asters, Cosmea, Namaqualand Daisy (*Dimorphotheca*), Tobacco Plant (*Nicotiana*), French and African Marigolds, *Arctotis*, *Phlox Drummondii*, *Salpiglossis*, various Everlasting Flowers such as *Helichrysum* and *Acroclinium*, Scabious, and others—all these are best sown in the frame in late February or early March. The most convenient way is to make up a bed of light soil, 3 or 4 inches deep, on top of a hot-bed, though the latter can be dispensed with. The seeds are sown in lines, the seedlings are



Annual Flowers

thinned out, and are planted in April or May where they are to bloom. A few charming annuals



A Lily bulb is shown in the upper sketch (a); the lower sketches show the method of potting (a), and how soil is added subsequently (b)

for growing in pots are *Acroclinium* and *Rhodanthe* (everlastings), *Lobelia tenuior* (a graceful blue-flowered plant), *Torenia Fournieri* (having beautiful

The Garden Frame



purple and yellow flowers), *Brachycome* (Swan River Daisy), *Campanula longistyla* (a handsome purple Bellflower), Marguerite Carnations, *Mina lobata* (a showy climber with orange-red blossoms),



Some charming annuals to grow in flower-pots.
Phlox Drummondii (a), *Summer Chrysanthemum* (b),
Salpiglossis (c)

Nemesia Blue Gem, *Primula malacoides* (a dainty plant with pink blossoms in profusion), Scabious, *Schizanthus* (Butterfly Flower), *Statice Suworowi* (a striking rose-purple flower), and *Thunbergia alata* (a twining plant with buff-coloured blossom, very attractive when trained round sticks). All



Annual Flowers

these are easy to raise from seeds sown in pots or pans ; as soon as the seedlings are large enough to be handled conveniently, they are transplanted into other pots, several together, in which they will bloom. A compost of loam, with a little leaf soil and sand intermixed, is suitable. While small, they should be shaded from bright sunshine, the frame being carefully ventilated so as not to expose them to cold draughts ; as they progress they need only to be kept cool, watered carefully and staked as becomes necessary.

Perennials.—An almost illimitable number of perennial plants may be raised by sowing seeds in the frame during March and early April. The seeds are sown in pots or boxes filled with light soil, kept moist and shaded until germination takes place ; the shade is then removed. To mention only a few, there are Border Carnation, Perpetual Carnation, Pink, Wallflower. Sweet William, Canterbury Bell, Border Chrysanthemum, Perennial Larkspur, Lupin, Oriental Poppy, Iceland Poppy, Bellflowers in variety, Pansy—in fact, almost any and every border and rockery plant may be raised in this way. The seedlings may be planted out of doors in May, direct from the boxes in which they were sown, and by autumn they will be ready to be put out where they are

The Garden Frame



to be grown permanently; they will blossom the following year and increase in beauty from season to season.

Tuberous Begonias.—These are among the most attractive flowers the amateur can grow in pots, for the greenhouse or room window, and a frame is an excellent place in which to start the tubers. They should be obtained in March and placed in shallow boxes, partly filled with leafy soil; they are slightly embedded in this material, and a little similar compost is placed over them. If kept moderately moist and shaded, they will soon start into growth, and when the young shoots are $\frac{1}{2}$ inch or so long, the tubers are potted separately in small pots; those of 4 inches or so in diameter are usually most suitable, but it depends upon the size of the tubers. The best compost is two-thirds turfy loam, and one-third leafmould, silver sand being also added freely. In potting, it is necessary only to cover the base of the new shoots. Watering must be done carefully until the plants are growing freely, the soil being kept only fairly moist. The Begonias will soon make progress if slightly shaded and if the frame is ventilated cautiously in chilly weather and more freely in warm weather. Aim at maintaining a temperature of about 50°.

FLOWERING PLANTS IN SUMMER

The frame is easily managed in summer—from the middle of May onwards. The “light” is tilted slightly early in the morning, ventilation



Tuberous Begonia grown in flower-pot

is increased as the day gets warmer, and the frame is closed altogether in the evening—at any rate until about the middle of June. From that time until the end of August the nights are usually warm, and the “light” may be taken off, unless

The Garden Frame



heavy rain falls. On hot days the light is taken off, and if shade is required it is supplied by stretching tiffany or very thin canvas across the top. It is wise to place the frame, if it is a movable one, in a partly shaded position for the summer months, then much watering is obviated, and the plants thrive all the better. It is wise to place the frame in such a position that it is shaded from sunshine during the middle of the day, or if that cannot be managed, to afford shade by means of tiffany or light canvas on sunny days. There is no better way of keeping the plants cool during summer than by placing them on a bed of ashes made up in the frame, for the ashes remain moist and consequently the soil in the pots dries less rapidly.

Cineraria and Calceolaria.—These indispensable flowers of spring and early summer are raised from seeds sown in a frame in May or early June. We are not now concerned with the shrubby *Calceolaria* used so largely for summer bedding, but with the gorgeous herbaceous *Calceolaria* that blossoms in the greenhouse in May. Seeds of this and of *Cineraria* are sown in pans or pots of light sifted soil; they are moistened by immersion before the seeds are sown. The seeds are scattered on the soil thinly, and are only



Calceolaria

lightly covered with sand or sifted soil. If kept shaded, and moistened as becomes necessary, the seedlings will soon appear; when they are large enough to be handled conveniently they are potted singly in small flower-pots, and when nicely rooted in those, they are repotted into others 5 inches wide in which they will pass the winter. Their requirements during the summer months are shade from bright sunshine, careful watering so that the soil is kept moist, but not sodden, and free ventilation; if the frame is kept too warm the plants will be attacked by green fly and will become unhealthy. Both *Cineraria* and *Calceolaria* are almost hardy, and they cannot be kept too cool during the summer months.

Double Wallflower.—This is a handsome flower for the greenhouse in spring; it is raised from seeds sown during July in pots of light soil in a frame. When the seedlings are large enough, they are placed singly in small pots, and subsequently are potted in those 6 inches in diameter. They should be kept perfectly cool in summer and safe from frost in winter.

Brompton and East Lothian Stocks.—These delightful old-world flowers are easily raised from seed sown early in July, in boxes of light soil.

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They may even be sown out of doors, but if the intention is to grow them for the greenhouse, it is more convenient to sow in pots. They must be kept perfectly cool throughout the summer and just safe from frost in winter. The Brompton Stocks are really hardy, though in a wet winter they are liable to perish. Various winter-flowering Stocks may be raised from seed sown in a frame in July; if grown as hardily as possible they will provide a most welcome display in winter and early spring.

Cuttings of Shrubs.—Many shrubs are easily increased by means of cuttings taken in July; if inserted in pots of light soil or in a small bed of similar material in the frame, they will form roots. The cuttings are made from the shoots which have blossomed; they should be 6 inches or rather more in length and severed immediately beneath a joint. The frame must be kept closed, and shaded if necessary, for three or four weeks; however, a little air ought to be admitted each morning to allow the moisture to disperse. If the whole frame cannot be devoted to this purpose, the cuttings should be placed beneath a handlight or bell glass in the frame. Suitable sorts of shrubs from which to take cuttings are Philadelphus (Mock Orange), Flowering Currant,

Taking Cuttings

Deutzia, Clematis, Spiraea, and other familiar sorts.

Cuttings of Spring and Summer Flowering Plants.—Such showy plants as Aubrietia, Alys-



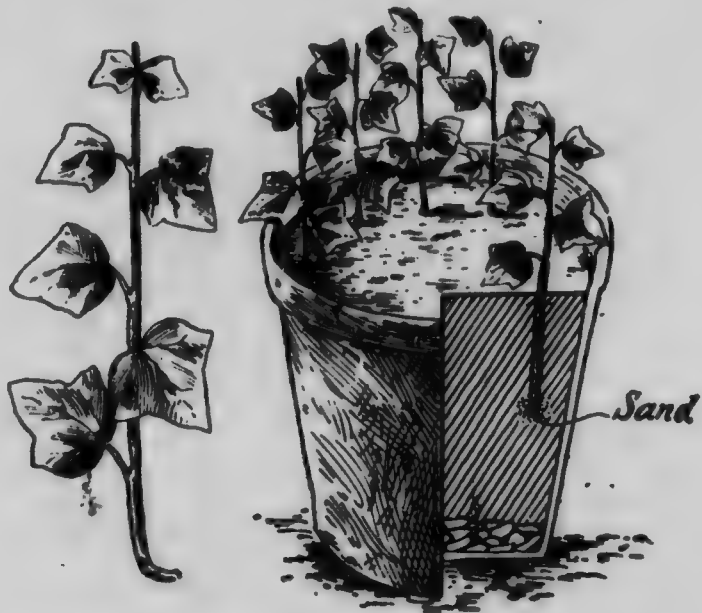
Cuttings of shrubs inserted in sandy soil in a
Frame

sum, Arabis, dwarf Phlox, creeping Gypsophila, Evergreen Candytuft, Pinks, and Carnations, are easily raised from cuttings taken now, and inserted in pots of sandy soil placed in the frame. If this is kept closed for three weeks or so, and the plants are syringed daily, they will form

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roots freely. The garden frame ought to be made full use of for this purpose, if an increased number of such plants is wanted.

Cuttings of Rockery Flowers.—If a bed of sand about 6 inches in depth is made up in the frame, so that its surface is within 3 or 4 inches of the glass, innumerable rockery plants may be increased by cuttings. They are inserted in the sand which is kept thoroughly moist, and the frame is closed and not shaded. The result is, of course, that the atmosphere inside the



Detached Ivy growth
with incipient roots

Ivy cuttings inserted in
pot of soil



Taking Cuttings

frame becomes intensely warm and moist, and one would expect the plants to perish, but, on the contrary, they form roots in an amazingly short time. But the sand must be kept wet.

Snapdragon.—The Snapdragon or *Antirrhinum* is one of the loveliest of twentieth century flowers ; a mixed packet of the best seed will provide blossoms of exquisite and varied colouring. If no heated greenhouse is available in which to sow seed in early spring, undoubtedly the best plan is to sow seeds in July in pots of light soil in the frame. I have raised many splendid plants in this way without any difficulty. The seedlings show through within a week or two if kept moist and shaded, and soon need transplanting. My practice is to pot them singly in 8-inch pots and to keep them in these all the winter. In spring they are repotted into larger pots, or are hardened off for planting out of doors. Large, bushy plants that bloom for weeks together are obtained by this method of cultivation, which is strongly to be recommended to possessors of a frame.

Primula.—From seeds of Chinese *Primula* sown in a frame in June moderate sized plants that will bloom in early spring are obtained.

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Two-branched Aucuba cutting, inserted in bed
of soil in the Frame

There are innumerable varieties, in many shades of colour, and providing they are kept cool and moist during the summer months, they are easy to grow. Chinese Primulas are hardier than is commonly supposed; seed sown in a frame in April and May will produce autumn and early winter flowers, and the plants are usually quite safe in an unheated frame until Christmas. *Primula malacoides*, a dainty little pink-flowered plant, will blossom in autumn from seed sown in a

Auricula

frame in June. All these Primulas are sown in pots or pans of light soil, and the seedlings are potted singly in small pots when an inch or so high; subsequently they are repotted in 5-inch pots in which they will bloom.

Auricula.—The Auriculas thrive best in a frame facing north during summer and in one facing south in winter. In May the plants should be topdressed with fresh soil, or repotted if necessary. The stock is increased by detaching some



Phlox shoot (a) prepared as a cutting (b).
If put in sandy soil in the Frame such
cuttings will form roots

The Garden Frame



of the side shoots or offsets, each with a few roots, and potting them separately in small pots. If placed beneath a handlight in the frame, or in a closed frame for two or three weeks,



A Simple Handlight

Every propagator knows the importance of keeping cuttings "close" after insertion. This shows a gas globe with a small piece of glass over the top used as a handlight

they will become established. Then, like the older plants, they must be kept perfectly cool.

An excellent potting compost for the Auricula is made up as follows: two-thirds turf soil, one-third leaf soil, together with a good sprinkling of sand and thoroughly decayed manure; a few pieces of charcoal may be mixed in with advantage.

 Auricula

The correct botanical name of the Auricula is *Primula Auricula*, and like practically all members of the *Primula* family, it thrives best when kept perfectly cool during the summer months; con-



Green-edged Auricula Wm. Smith

The Garden Frame



versely, if placed in a hot position at that time, and allowed to become dry at the roots, it is almost certain to fail. During winter, care in watering is necessary, otherwise some of the leaves will damp off, and the plants must be aired as freely as the weather will allow.

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